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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/829,170	04/09/2001	A. L. Hagedorn	IO-1027-US	8264

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PAUL S MADAN
MADAN, MOSSMAN & SRIRAM, PC
2603 AUGUSTA, SUITE 700
HOUSTON, TX 77057-1130

EXAMINER	
LOBO, IAN J	
ART UNIT	PAPER NUMBER

3662

DATE MAILED: 03/26/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/829,170	HAGEDOORN ET AL.
Examiner	Art Unit	
Ian J. Lobo	3662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 09 December 2002 .

2a) This action is **FINAL**. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-47 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-47 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) Notice of References Cited (PTO-892) 4) Interview Summary (PTO-413) Paper No(s). _____
2) Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) Notice of Informal Patent Application (PTO-152)
3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6) Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 18 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by the patents to McNeel ('692) or Wilson et al ('445).

See washer 80 of McNeel or figs. 12 and 13 of Wilson et al.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 46 is rejected under 35 U.S.C. 103(a) as being unpatentable over McNeel ('692, '520), Hall, Jr. ('464) or Wilson et al ('445) when taken in view of Pagliarini, Jr. ('390).

The McNeel, Hall, Jr. and Wilson patents are all exemplary of prior art geophones that include a housing with first and second terminals.

The difference between claim 46 and the aforementioned patents is the claim specifies that one terminal is located on a first side of the housing and a second

terminal is located on a second side of the terminal. In the prior art patents the terminals are all located on the same side of the housing.

The patent to Pagliarini, Jr. discloses a double sided transducer embodiment (see Fig. 3). As noted on col. 5 of Pagliarini, Jr. the double sided version of an acoustic transducer has the advantages of providing symmetrical radiation patterns, reduced housing motions and lighter housing structures.

In view of Pagliarini, Jr., and in light of the advantages of double sided transducing structures so taught, it would have been obvious to one of ordinary skill in the art to have modified the prior art single sided geophones of McNeil, Hall, Jr. or Wilson et al to double sided geophones. Inherent in a double sided geophone is the terminals located on either side of the housing rather than on one side. Claim 46 is so rejected.

5. Claims 44, 45 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thompson ('674).

Thompson discloses an acoustic transducer that includes a first and second plurality of electrically conductive parts with an insulative surface therebetween.

The difference between claims 44, 45 and 47 and Thompson is the claims specify a geophone whereas Thompson discloses an acoustic transducer. However, in view of the fact that geophones are a type of acoustic transducer and Thompson teaches a receiver embodiment of the transducer structure, it would be obvious to one of ordinary skill in the art to utilize the Thompson structure as a geophone.

6. Claims 1-17 and 20-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hall, Jr. (464) or McNeel ('520, '692) when taken in view of Thompson ('674) or Pagliarini, Jr. ('390).

The patents to McNeel and Hall, Jr. (hereinafter Hall) each disclose a geophone with a housing, an electrically conductive terminal, a magnet and a coil resiliently mounted within the housing.

The difference between claims 1, 11, 17 and 20 is the instant claims are directed to a double sided geophone whereas the McNeel and Hall structures are single sided.

The patents to Pagliarini, Jr. and Thompson each discloses a double sided acoustic transducer. On col. 5, lines 54-66, it is taught that a double sided transducer has the advantages of more omnidirectional radiation patterns and reduced housing motion and therefore a lighter housing.

In view of the advantages attributed to double sided versions of acoustic transducers, as taught by Thompson and Pagliarini, Jr., it would have been obvious to one of ordinary skill in the art to have modified the single sided geophones of McNeel or Hall to double sided versions. Independent claims 1, 11, 17 and 20 are so rejected.

Dependent claims 2-10, 12-16 and 21-30 are further provided by the combination of the above noted patents.

Response to Arguments

7. Applicant's arguments with respect to claim 44-47 have been considered but are moot in view of the new ground(s) of rejection. Further, it is noted that, although Pagliarini, Jr and Thompson are specific to underwater acoustic transducers, geophones are *per se*, acoustic transducers.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Pagliarini, Jr. and Thompson each teaches the advantages of double sided transducers. A skilled artisan would not find the art of underwater acoustic transducers and geophones to be dissimilar. It would have been obvious to apply the teachings in the field of acoustic transducers to geophones since geophones are a specific type of acoustic transducer.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ian J. Lobo whose telephone number is (703) 306-4161. The examiner can normally be reached on Mon - Fri, 6:30 - 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Tarcza can be reached on (703) 306-4171. The fax phone

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numbers for the organization where this application or proceeding is assigned are (703) 872-9326 for regular communications and (703) 872-9327 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.



Ian J. Lobo
Primary Examiner
Art Unit 3662

ijl

March 24, 2003